

Outline

- Purpose
- DoD VE Program
 - Objectives
 - Army
 - **✓** Navy
 - ✓ Air Force
 - ✓ Missile Defense Organization
 - Defense Logistics Agency
- VECPs
- VE An accepted commercial practice
- VE Methodology/Workshops
 - ✓ Examples
- Summary

Purpose

To Provide the PEO SYSCOM participants with an overview of the DoD Value Engineering Program

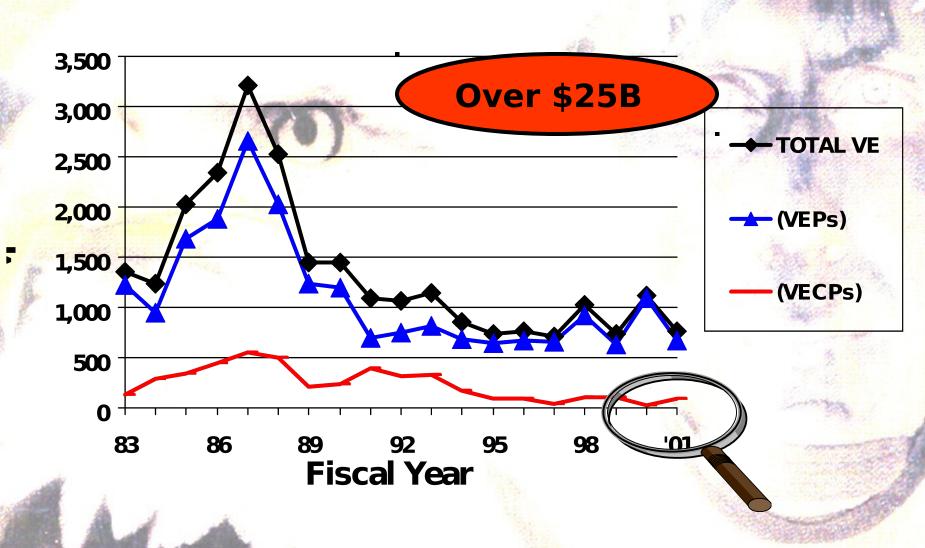
Value Engineering - An organized effort directed at analyzing the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety. OMB Circular A-131

Value Engineering Today in DoD

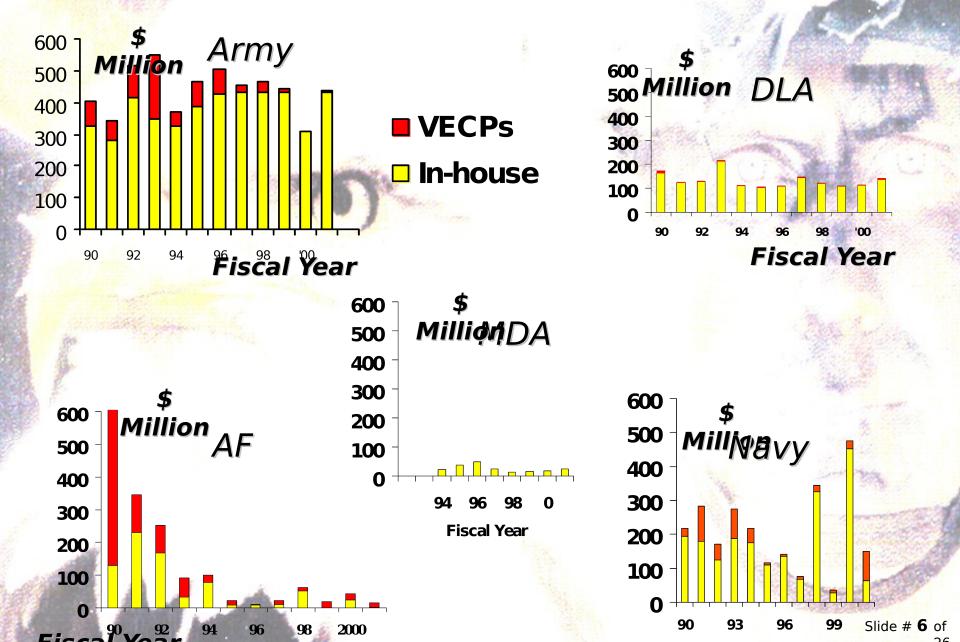
- (PL 104-106) Each executive agency shall establish & maintain cost-effective VE procedures & processes
- In-house and Contractors
 - In-house Value Engineering Proposals (VEPs)
 - Contractors Value Engineering Change Proposals (VECPs)
- The toolkit: teaming, job plan, FAST
- Teaming with the Industry/government partnership produces best results

Goal: Lower the government's costs for goods and services & provide cost effective solutions to problems in design, development, fielding, support, & disposal

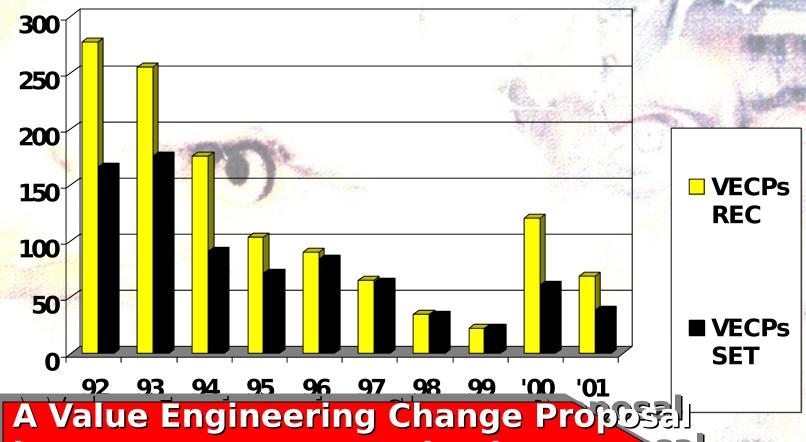
DoD VE Savings & Cost Avoidance FY83-01



DoD VE Savings By Service/Agency



DOD VECPs Received & Settled



A Value Engineering Change Proposalis a contractor cost reduction proposal Submitted under the VE clause in the contract and it must do the following:

1) SAVE money

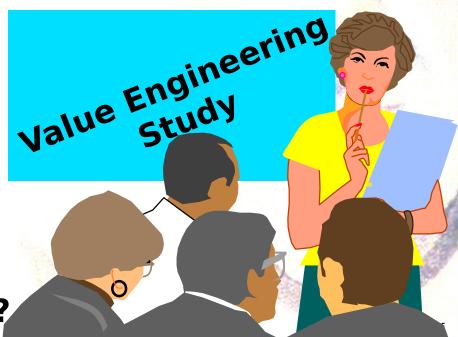
2) Change the contract

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- People doing the work have the best insight/ideas
- Majority of our work is done by contractors
- We need their input and ideas to improve value and reduce cost
- Why would a Contractor offer up an idea that reduces the contract value?

- Increase use of VE Techniques
- Incentives to reduce government cost



Where do I find the VE clauses?

- FAR Part 48 Policies and Procedures for use of clauses
- FAR Part 52.248 the VE clauses



2 Major VE Incentive Approaches

- Voluntary
 - Contractor can pursue studies using their own funds
 - ✓ Contractor receives a large share of savings
 - **√** 52.248-1
 - ✓ Greater Contractor Risk
 - ✓ Greater Contractor Return

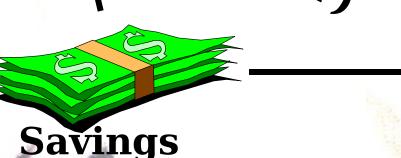
- Mandatory
 - ✓ Government funds study effort
 - ✓ Contractor receives small share of savings
 - √ 52.248-1 Alternate 1
 - ✓ Greater Government Risk
 - ✓ Greater Government Return

Voluntary Clause FAR 52.248-1



Invest their own funds, on a voluntary basis, to develop cost saving ideas





Development &

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Governme

VECP Process Flow: Service Perspective

Government VE advocate assists
IPT in VECP review through Cost
Benefit Analysis & any VECP
Issue clarification. Customer concurs
With contractor approach; requests
Contractor submit formal VECP
(60 days)

Contractor prepares formal VECP
With detailed technical, cost and schedule data for customer Change Board processing (60 days)

Contractor/VE advocate presents VE idea (C) to customer change Control Board IPT To gain "buy in" On approach (30 days)

Government Customer receives
Formal VECP; Change Control Board
(CCB) IPT processes change, consistent with
Established customer procedures. Agency
VE advocate should participate as
consultant and resource to IPT
Providing guidance & issue clarification
As appropriate. Following CCB
Approval & funding, where required,
Contracting officer prepares bi-lateral mod
To implement change.
(150-180 days)

Contractor initiates idea for VECP developed from any source

Contractor accepts change for implementation.

FAR Changes

- Recent FAR Changes Allow CO To Set...
 - ✓ Share Period From 3 To 5 Years
 - ✓ Share Rate From 25% to 75%
 - ✓ Collateral Share Rate From 20% to 100% Of Average Year
- Determining Sharing period and rates
 - ✓ FAR 48.102 (g)
 - Extent of change, complexity of change, production period remaining, development risk, development cost, performance/reliability impact, # of units affected
- To Provide Incentive
 - Even With Lower Production Quantities
 - ✓ New Technology Insertion (Risk)

Show an interest in VECPs

- Contractor's respond to their customers
 - ✓ Brief the VE clause at start of work conferences or quarterly review.
 - ✓ Send letters to contractors about the VE clause.
- Make it profitable for contractors
- Timely technical evaluations and financial settlement (contract mod)
- Fair technical evaluations Government must weigh risk versus benefits
- Fair negotiation of settlements Contracting officers remember this is an incentive clause
- Encourage up-front communication (assign champion)



VE - An accepted commercial practice

- Society of American Value Engineers (SAVE),
 International Membership from 35 countries
- Used by leading industry companies
- Commercial and Government training is available
- VE Program provides skilled practitioners in government
- Multiple commercial sources for skilled practitioners
- (Æ is an accepted commercial practice identified in the National Institute of Accountants Statement of Management Accounting

VE - An Industry Example

1998 Toyota Corolla-VE Projec



- Impulse Red Pearl with Stone or Pebble Beige (CE/LE) or Charcoal (S) Interior
- Problems: Increased material costs, production time issues
- Objective: Correct problems using VE / VA
 - ✓ Lighter (by 10%)
 - **√25% Fewer engine parts**
 - ✓ Faster production
 - ✓ Better fuel economy
 - ✓ Decreased emissions
 - √ 15% Horsepower increase
 - ✓ Costs less to make (\$1,000 less than in 1997)

VE - A Systematic Approach

The Scientific Method

- 1. Select problem area
- 2. Derive Hypothesis
- 3. Review the literature
- 4. Develop methodology

- 5. Data collection
- 6. Data analysis
- 7. Interpretation of results

The Value Improvement Process

- 1. Information-frame problem
- 2. Function Analysis
- 3. Speculation-generate ideas based on function
- 4. Evaluation of ideas

- 5. Development of ideas
- 6. Verification
- 7. Reporting-present business case
- 8. Implementation- Use Champions & follow-up

rovides planned systematic approach that is likely to be more productive than one that is undisciplined or opportunistic

Workshop/Methodology Are Successful

- Proven systematic approach
- Focuses on function
- Skilled Facilitator
 - ✓ Positive forward thinking focus
 - Creativity tools
- Relevant professional participation
- Peer synergism
- Management emphasis, support, & visibility
- Time set aside to focus on improvement

Reasons Why Optimization May Not Be Achieved

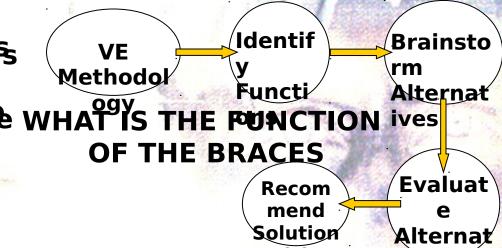
- Habits and attitudes
- Shortage of time
- Requirements are technically beyond capability
- Lack of insight into costs
- Change in technology (hardware & processes)
- Lack of knowledge of actual requirements
- Fixation with previous designs
- Presence of bad information/failure to fully communicate
- Temporary circumstances
- Honest but wrong beliefs

Setting Up A VE Workshop

- Contact a VE Facilitator
- Hold a target of opportunity panel to ID projects
- Hold the pre-event 3-6 weeks prior to workshop
 - ✓ Identify the right people for participation (PM engineers, user, contractor/engineer/mfg rep, soldier/requirements generator, field support, contracting officers, etc..)
 - ✓ Identify information necessary to have at the workshop
- Room is scheduled and agenda developed
 - Mgmt sends message to workforce to identify importance, dates and location for event
 - ✓ Arrangements are made to work remotely with subject matter experts as needed (last resort)
 - ✓ Arrange to have management brief study team(s) on first morning and at out-brief
- Workshop event is held, management attends out-brief, makes decisions, tells team how they did

VE Savings Proposals In-house (VEP) Example

Value Engineering Proposa (VEP)
In house proposals generate the majority of savings & OF THE BRACES cost avoidances





Millions avoided in redesign costs and repair

Simplicity

Rocket Pod Damage

ives

VE Change Proposal

Not so simple

- Value Engineering Change Proposals (VECP) A contractor submitted cost reduction proposal under the VE clause (FAR Part 52.248) on a current contract
 - ✓ Requires a change to the contract to implement & results in reducing projected cost to the agency
 - ✓ Contractor receives D&I & share of savings
- Raytheon submitted VECP to:
 - ✓ Reduce 12 circuit card assemblies to 8
 - ✓ Eliminate 4 interconnections inside the RT
 - ✓ Incorporate the latest hardware packaging
 - ✓ Significantly improve system performance and reduce cost (Affected approx 5900 Enhance Position Location Reporting System Radio Transmitters)
 - ✓ Government savings in FY01 were \$1.745 M.

Summary

Value Engineering - What can we do?

- VECPs are good for the Government & the Contractor so encourage communication and fair & timely VECP evaluation & settlement
- Workshops are a catalyst for focusing on cost reduction/problem areas with Contractor/ Requirements Organization/PM/Field Support Folks
- Develop the mindset: Extending the benefits of VE requires focus on improvement to the status quo and management of risk.
 - Cooperate: Partner get the right people together.
 - Innovate: focus on cost reduction SYSTEMATICALLY!
 - Implement: Ideas are meaningless until put into action. Follow through!

ptimizes potential for positive change

COST VISIBILITY/AWARENESS

 Being innovative is understanding there is always a better way > It takes dedication and effort to find it > Results come from doing the right things functifing mandoing 7the vith ingstrong htgy Works

Any questions?

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Thanks for your time.